




UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,886	07/18/2003	Kenji Tsuchida	240471US2S	3064
22850	7590	08/17/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TRAN, MICHAEL THANH	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/621,886	Applicant(s) TSUCHIDA ET AL.	
	Examiner Michael t Tran	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on July 18, 2003 through June 21, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18, 28 and 29 is/are allowed.
- 6) ☒ Claim(s) 19 and 23 is/are rejected.
- 7) ☒ Claim(s) 20-22 and 24-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>071803, 062104</u> . | 6) <input type="checkbox"/> Other: _____ |



DETAILED ACTION

1. In response to the Communications dated July 18, 2003 through June 21, 2004, claims 1-35 are active in this application.

Foreign Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a) (d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed July 18, 2003 and June 21, 2004 have been considered.

Claim Objections

4. Claims 20-22 and 24-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections – 35 U.S.C. § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2818

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

6. Claims 19 and 23 are rejected under 35 U.S.C 102(e) as being anticipated by Iwata [U.S. Patent Application #US 2004/01256648 A1 – Application No. 10/431,369].

With respect to claim 19, Iwata discloses, in figure 1, a magnetic random access memory comprising: a memory cell array [figure 1] of a hierarchical bit line scheme in which cross-point memory cells that exhibit a magnetoresistive [MTJ] effect are laid out in a matrix, and a read bit line [RBL1] to be used in a data read mode is constituted by a main bit line [RBL_j] and a sub bit line [RBL_j']; connection means for selectively connecting a word line to select the memory cell to one of first and second potential supply sources which are different from each other [ground potential or power supply – see page 5, 2nd column, lines 1-5]; and control means for controlling the connection means to set the word line in an electrical floating state [see page 5, 2nd column, lines 6-8].

With respect to claim 23, Iwata discloses, in figure 1, the control means comprises a row decoder [16-n] and word line driver [17-n] to set a potential of the word line in the read mode, and when the connection means is deactivated by the row

decoder and word line driver, the word line is set in the electrically floating state [see page 5, 2nd column, lines 6-8].

Allowable Subject Matter

7. Claims 1-18 and 28-29 are allowable over the prior art of record.
8. The following is an Examiner's statement of reasons for the indication of allowable subject matter: the prior art of records does not show (in addition to the other elements in the claim) the following:
 - ❖ A row selection circuit configured to select the word line for each cell unit by controlling the switch circuits, and in read operation, set, in a floating state, the word lines except the selected word line with a selected memory cell connected, to which unselected memory cells connected to the sub bit line to which the selected memory cell is connected are connected, and set the word lines connected to memory cells in the cell unit which does not include the selected memory cell to the same potential as that of the main bit line.
 - ❖ Word line potential setting means for, in read operation, setting, in a floating state, word lines to which unselected memory cells are connected to the sub bit line to which the selected memory cell is connected are connected, and setting word lines except the word lines, which are connected to sub bit lines which do not include the selected memory cell to a potential substantially equal to the main bit line.

- ❖ The control means comprises first and second row decoders and word line drivers to set a potential of the word line in the read mode, and when the connection means is deactivated by the first and second row decoders and word line drivers, the word line is set in the electrically floating state.
- ❖ Wherein the connection means comprises first and second selection circuit which connect the word line to the first and second potential supply sources on the basis of an output signal from the row decoder and word line driver, each of the first and second selection circuits being constituted by an NMOS transistor, and the MOS transistor is controlled by the output signal from the row decoder and word line driver.
- ❖ Wherein the connection means comprises first and second selection circuits which connect the word line to the first and second potential supply sources on the basis of an output signal from the row decoder and word line driver, the first selection circuit being constituted by a PMOS transistor, and the second selection circuit being constituted by an NMOS transistor, and the MOS transistor is controlled by the output signal from the row decoder and word line driver.
- ❖ Asserting a word line connected to a memory cell to be selected and setting the word lines in a floating state, the word lines being connected to unselected memory cell to be selected is connected; and setting word lines except the word lines, which are connected to the sub bit lines which do not include the selected memory cell, to a potential substantially equal to the main bit line.

Conclusion

9. When responding to the Office action, Applicants are advised to provide the Examiner with line and page numbers of the application and/or references cited to assist the Examiner in the prosecution of this case.

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Michael T. Tran whose telephone number is (571) 272-1795. The Examiner can normally be reached on Monday-Thursday from 7:30-6:00 P.M.

11. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1650.



Michael T. Tran
Art Unit 2818
August 13, 2004